

REVISION HISTORY						
REV	SHEET	DATE	DESCRIPTION	AUTHOR	APPROVED	CHECKED BY
A	ALL	10/09/17	UPDATED BOUGHT PARTS WITH ES NUMBERS; CHANGED ROUTING OF -2 AND -3, ADDED FLOW CONTROL VALVE; UPDATED LENGTHS OF HOSES.	JT	JT	LS
B		02/26/18	FOR THE -2, ES27100-1 QTY WAS 2, REMOVED ES45002-1, ES45006-1 QTY WAS 2, ES45008-1 QTY WAS 1, REMOVED ES45010-2, ADDED SAE 140157 QTY 2, ADDED NOTE 1; REMOVED -4, -5, -6, -7, -11; -12, -13 AND -14.	EW	JT	LS
C		7/27/18	-2 UP PORT ADDED ES27100-1 & CONFIGURED SAME AS DN PORT; DN PORT WAS CONFIGURED WITH FLOW CONTROL VALVE AT 7-12DEG OFF VERTICAL; -3 REPLACED ITEM 3 ES45010-1 WITH WITH ITEM 2 ES45003-1; ADDED TORQUE VALUES.	EW	EW	LS
D		12/18/18	CHANGED ITEM 7 TO SAE 140157-4-4 FROM SAE 140157 ON -2 PUMP ASSEM BOM	CMK	CMK	LS
E		11/7/19	-2 MODIFIED PLUMBING AND FITTINGS TO MOVE DUMP VALVE TO PUMP ASSEM; ADDED -4/-5/-6/-11/-12 FOR REDUNDANT EMERGENCY RETRACT HYDRAULIC SYSTEM DESIGN; REMOVED -3	CMK	CMK	LS

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PROTO

Paravion<sup>®</sup> Technology Inc.

DIMENSIONS IN INCHES  
TOLERANCES EXCEPT WHERE NOTED:  
.X = ±.1  
.XX = ±.05  
.XXX = ±.010  
ANGLES = ± 1°

THREADS:  
INTERNAL: CLASS 2B  
EXTERNAL: CLASS 2A

3RD ANGLE PROJECTION

DO NOT SCALE DRAWING

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TITLE  
PLUMBING

DRAWN BY  
KEW

CHK'D BY  
LS

APRVD. BY

DATE  
9/14/16

DO NOT SCALE DRAWING

DRAWING NUMBER  
RT-4000

REV  
E

ECO

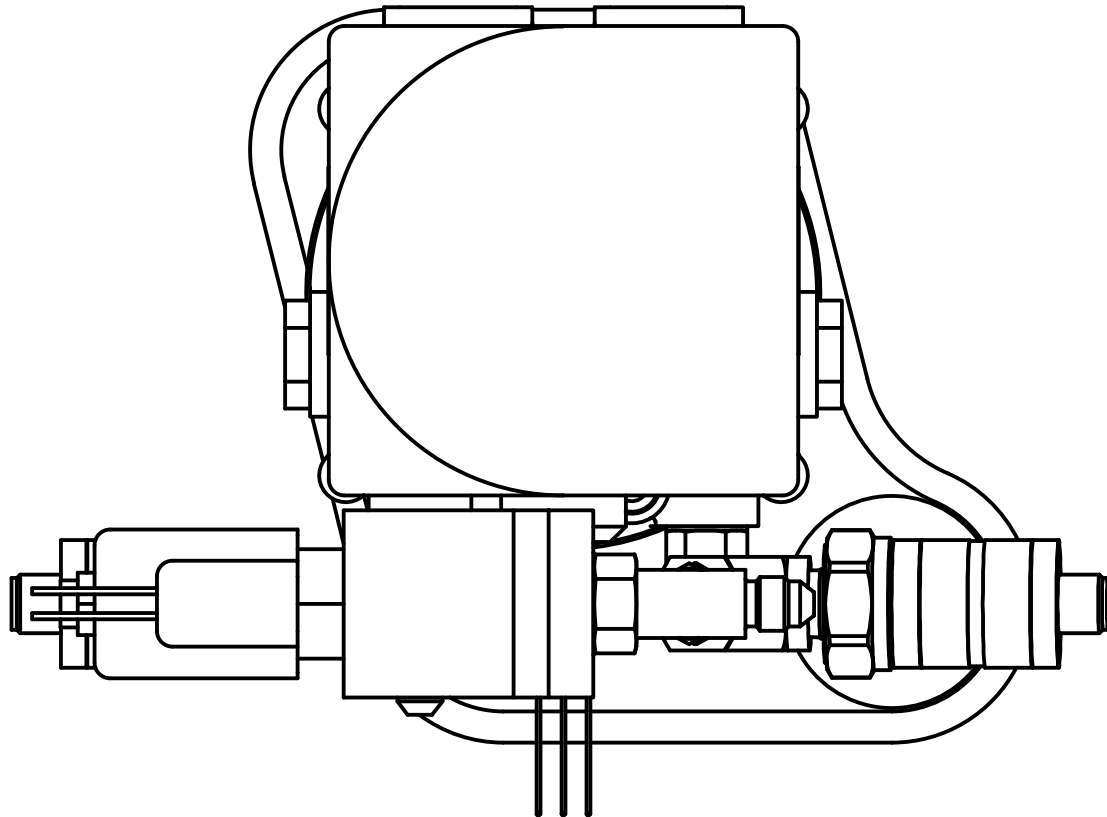
SHEET  
1 OF 7

-2 PUMP ASSEM

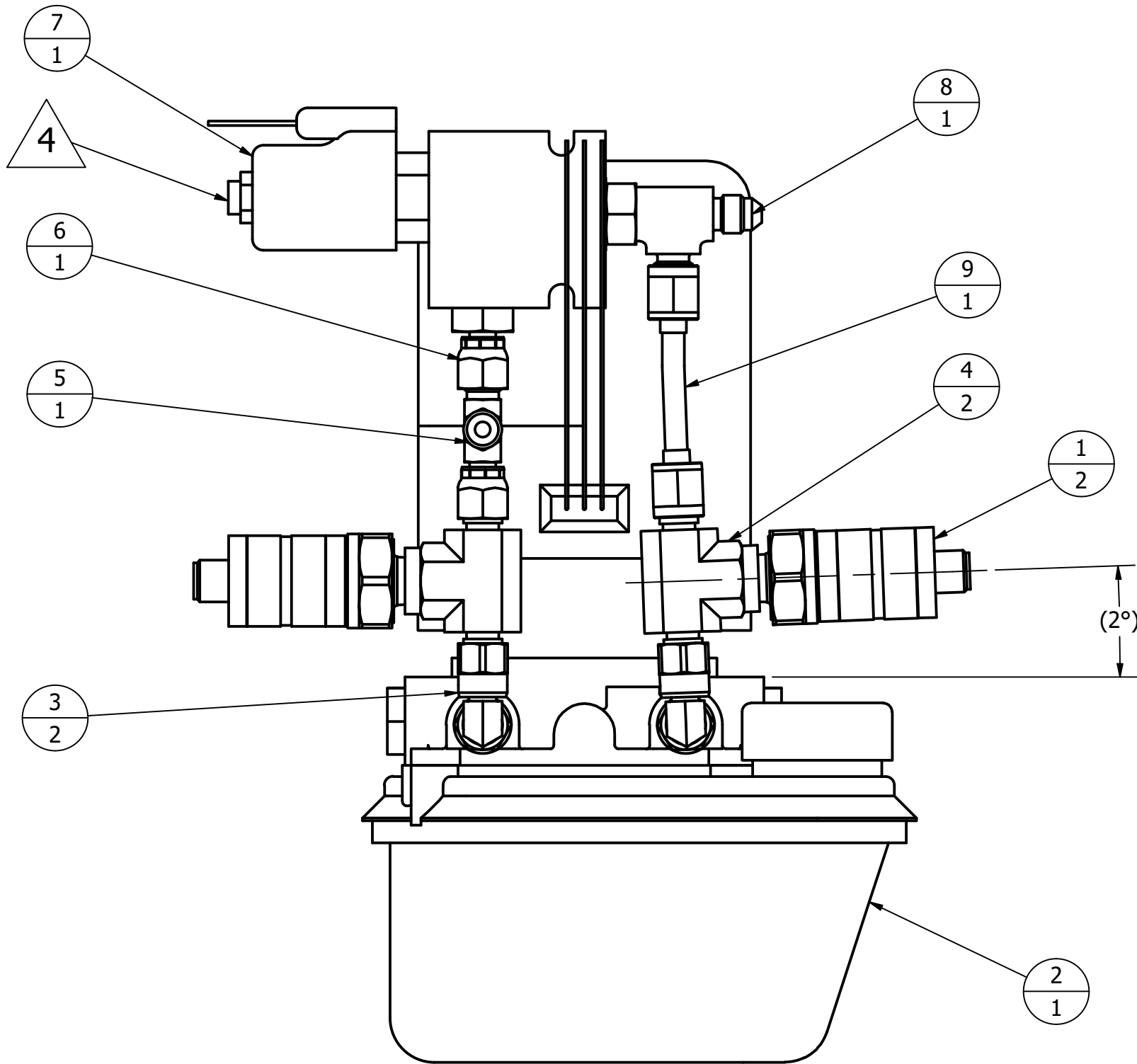
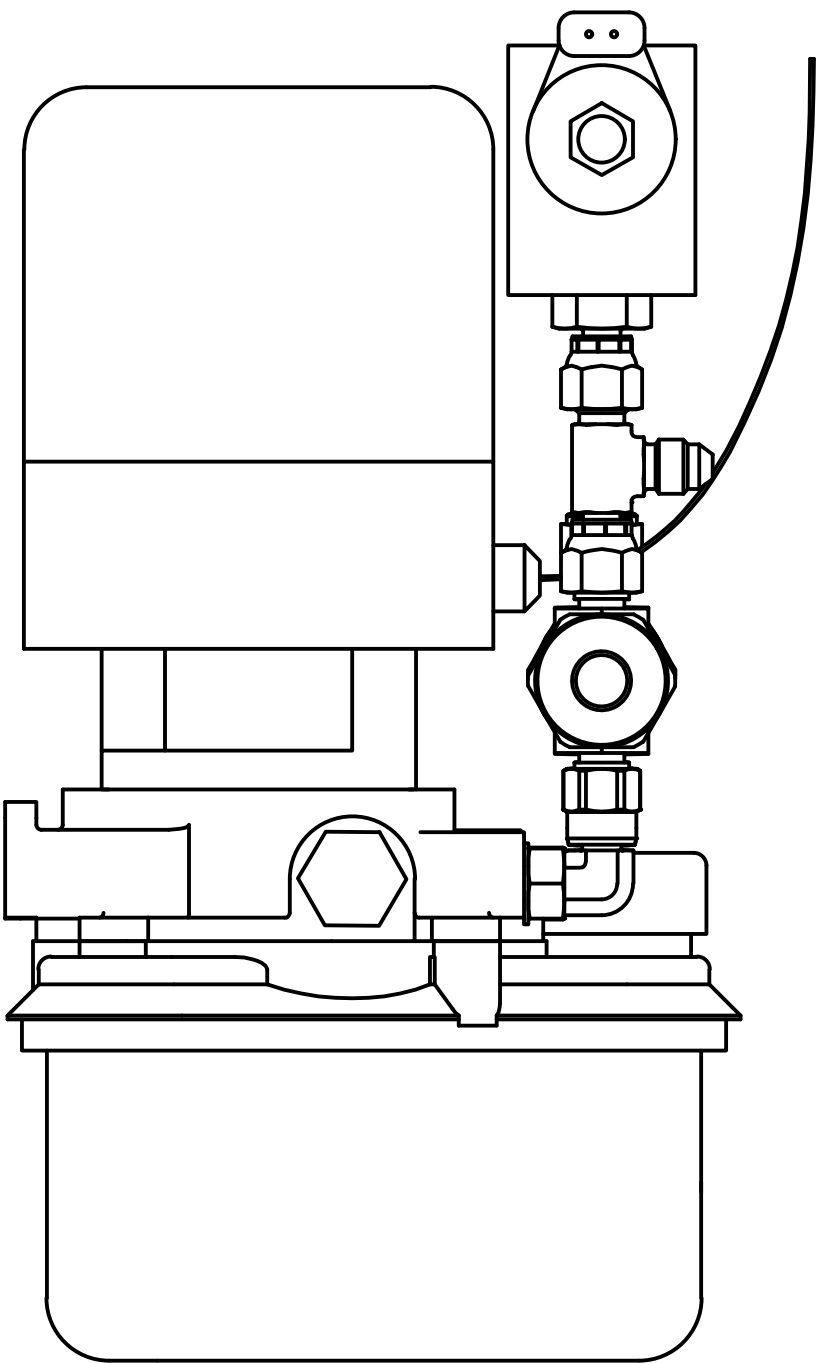
NOTES:

1. APPLY GASOILA PL52 PIPE THREAD SEALER (OR EQUIVALENT) TO MALE PIPE THREADS.
2. TORQUE PIPE FINGER TIGHT PLUS 2-3 TURNS (3.5 TO 6 THREADS ENGAGED).
3. STRAIGHT THREAD TO PUMP HOUSING SAEJ1926 #4 FTG. 180in\*lb.
4.

TORQUE NUT TO 50 IN-LB AND APPLY LOCTITE RED 26250 THREAD LOCKER OR EQUIV. TO SOLENOID NUT WHEN INSTALLING.
5. TORQUE JIC #4 FITTINGS TO 150 IN-LB.

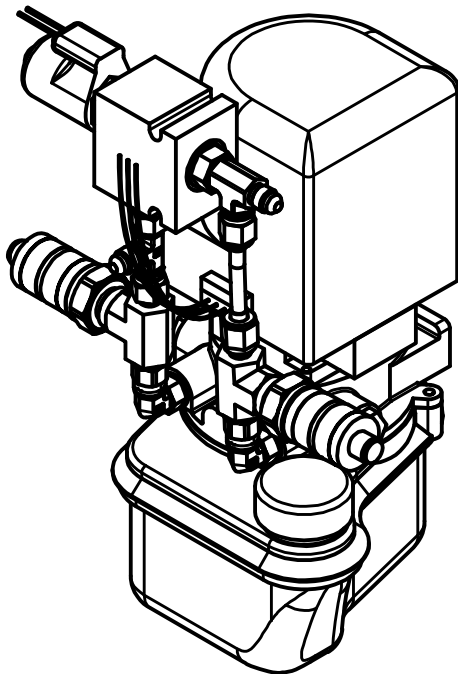
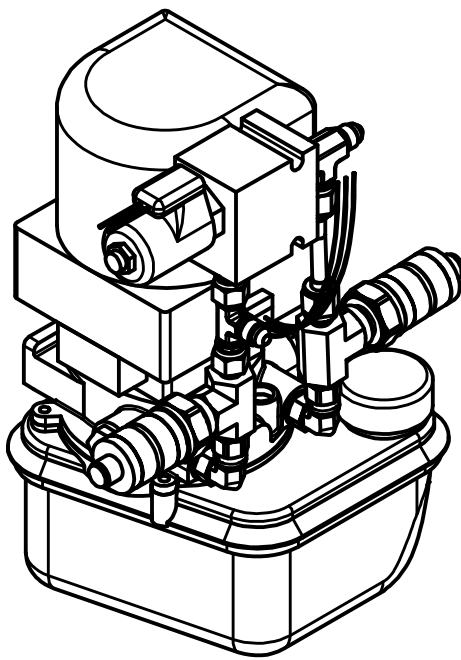


PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	ES50650-1	PRESSURE SWITCH
2	1	ES65000-1	PUMP
3	2	ES45003-3	STRAIGHT THREAD ELBOW
4	2	ES45030-1	BRANCH TEE
5	1	ES45000-2	RUN TEE
6	1	ES45010-4	STRAIGHT ADAPTER
7	1	ES27000-1	VALVE
8	1	ES45000-1	RUN TEE
9	1	RT-4000-6	PRIMARY PUMP TUBE ASSEM



TORQUE TABLE (REFERENCE)

CONNECTION	TORQUE (IN-LB)
SAEJ1926 #4	180
NPT 1/4-18	FINGER TIGHT + 2-3 TURNS OR 192 MAX
JIC 4	150



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		3RD ANGLE PROJECTION			ECO
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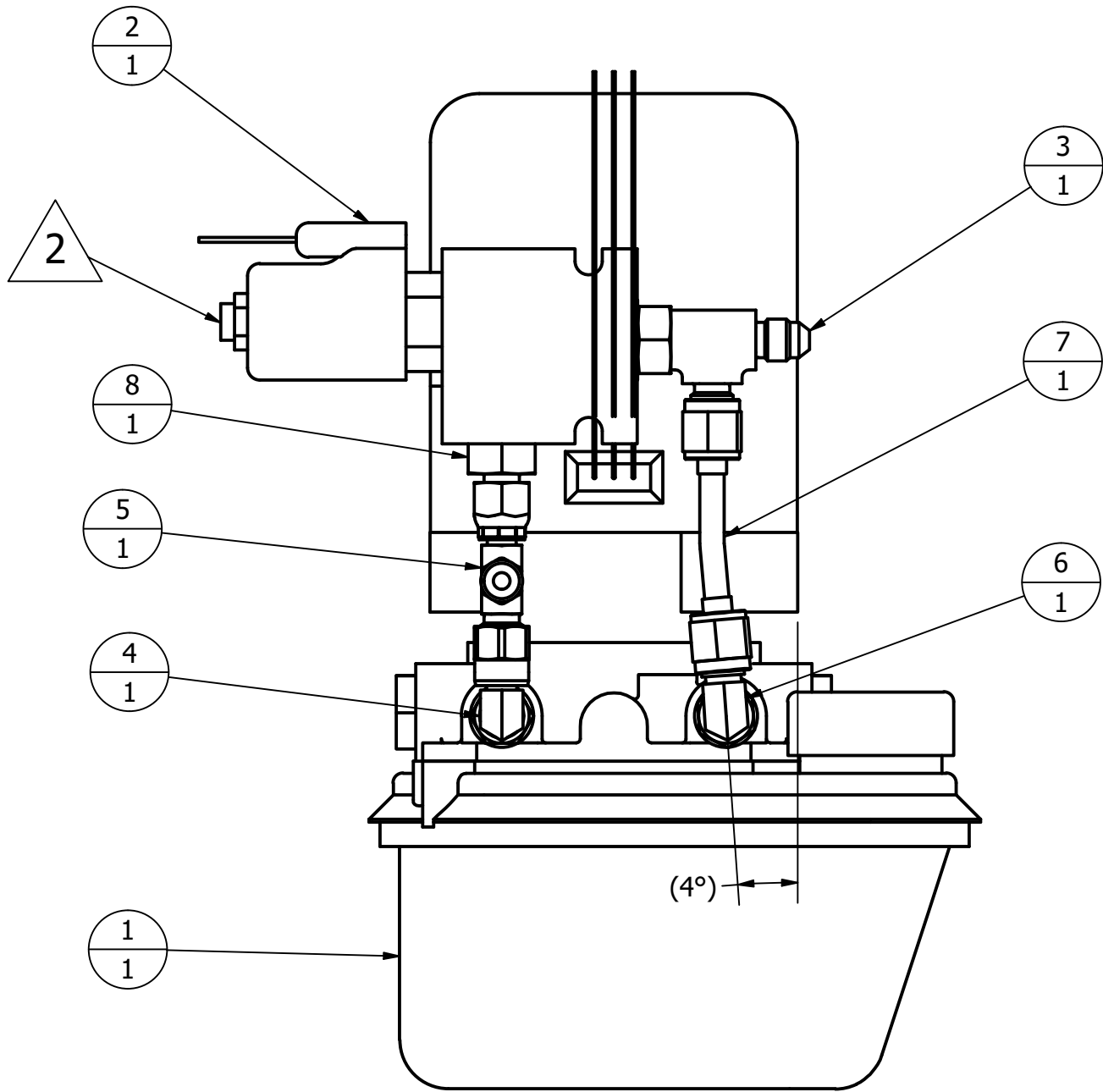
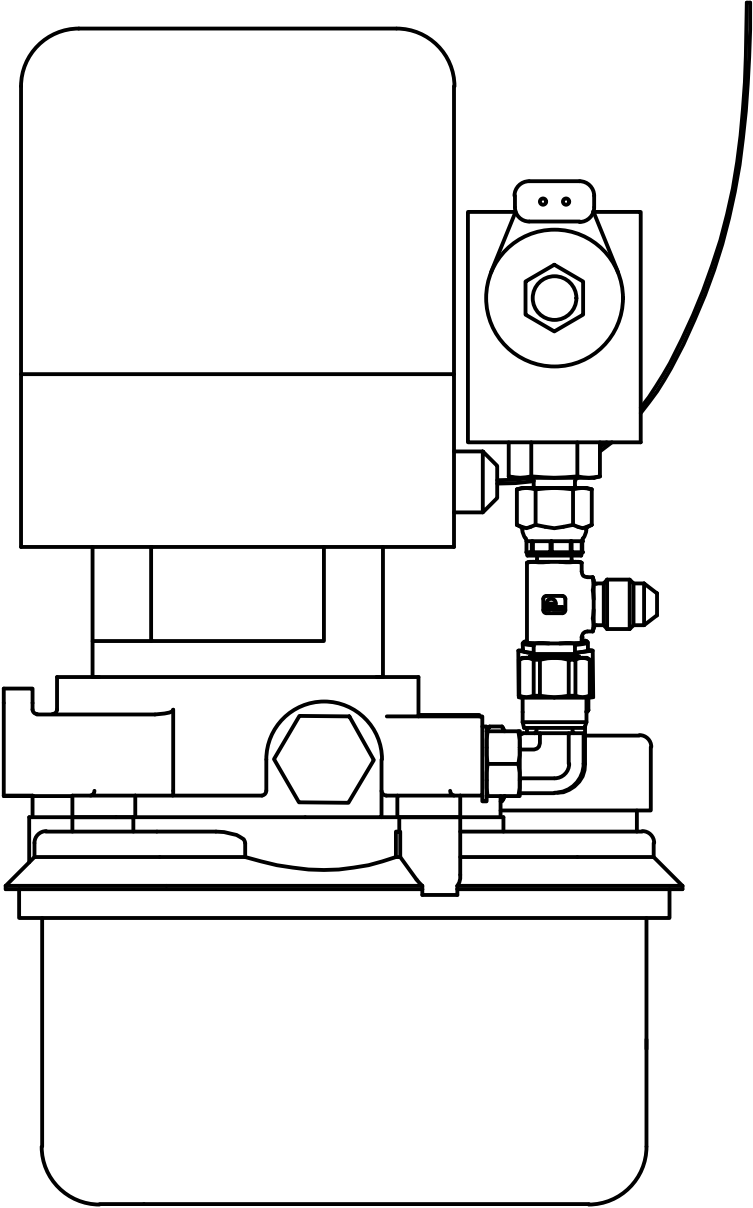
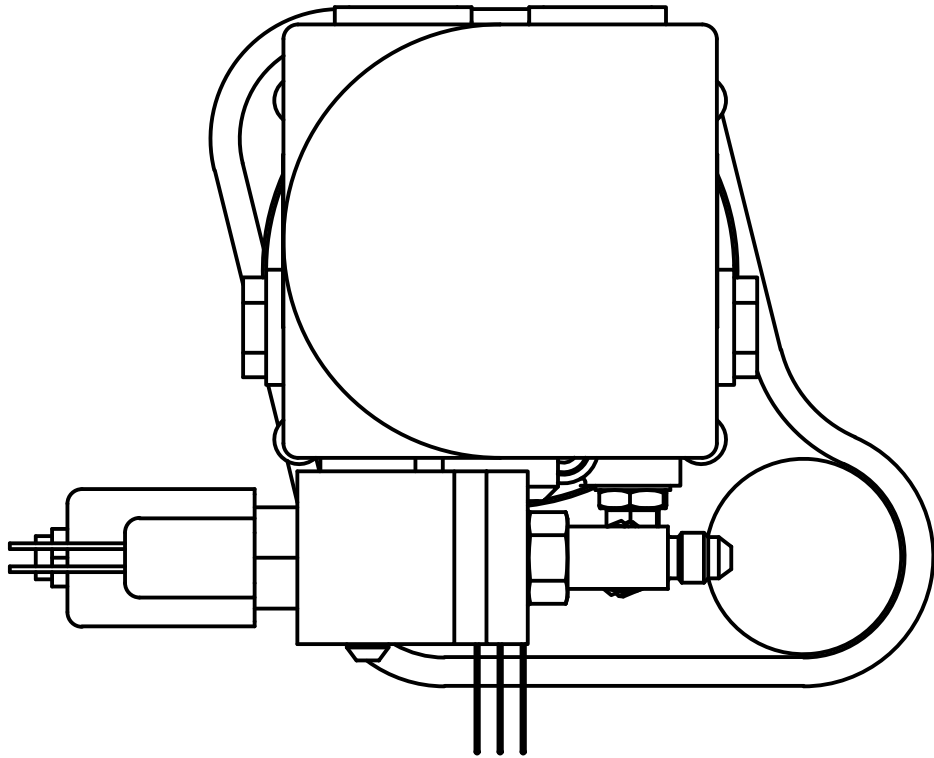
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-4 EMERGENCY PUMP ASSEM

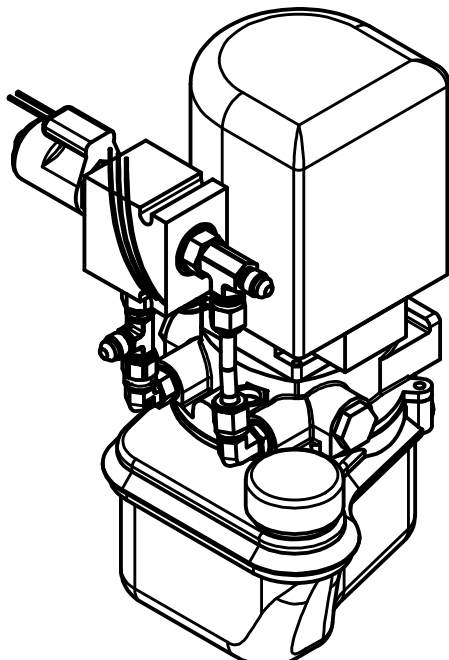
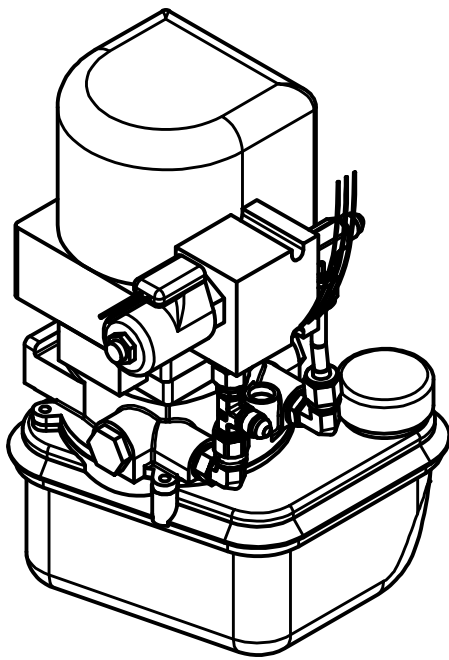
NOTE:

1. STRAIGHT THREAD TO PUMP HOUSING SAEJ1926 #4 FTG. 180in\*lb.
2. TORQUE NUT TO 50 IN-LB AND APPLY LOCTITE RED 26250 THREAD LOCKER OR EQUIV. TO SOLENOID NUT WHEN INSTALLING.
3. TORQUE JIC #4 FITTINGS TO 150 IN-LB.



TORQUE TABLE (REFERENCE)

CONNECTION	TORQUE (IN-LB)
SAEJ1926 #4	180
NPT 1/4-18	FINGER TIGHT + 2-3 TURNS OR 192 MAX
JIC 4	150



Paravion <sup>®</sup> Technology Inc.		TITLE PLUMBING		DRAWING NUMBER RT-4000	
DIMENSIONS IN INCHES TOLERANCES EXCEPT WHERE NOTED: .X = ±.1 .XX = ±.05 .XXX = ±.010 ANGLES=± 1° THREADS: INTERNAL: CLASS 2B EXTERNAL: CLASS 2A		DRAWN BY KEW	CHK'D BY LS	APRVD. BY	DATE 9/14/16
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		3RD ANGLE PROJECTION			ECO
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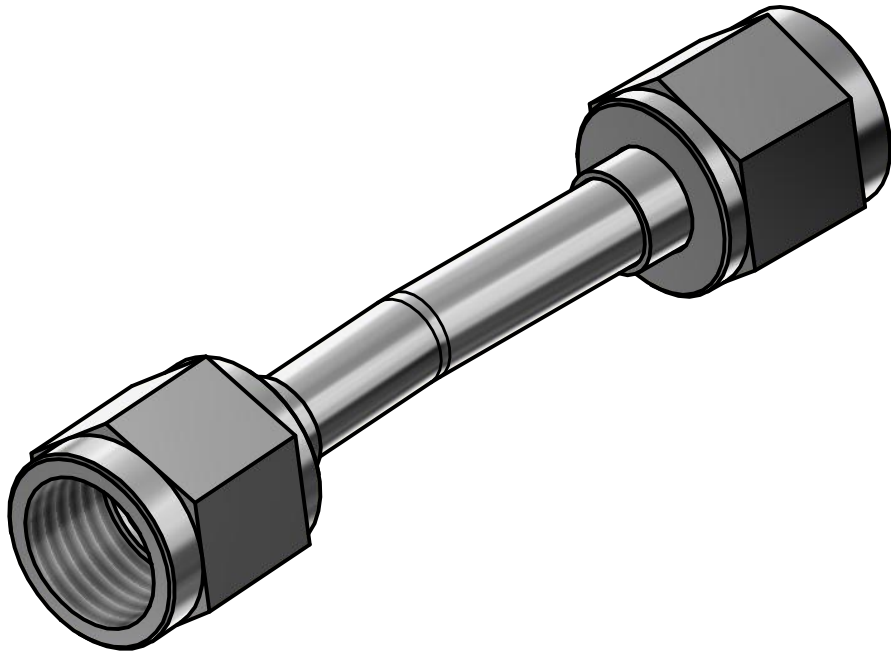
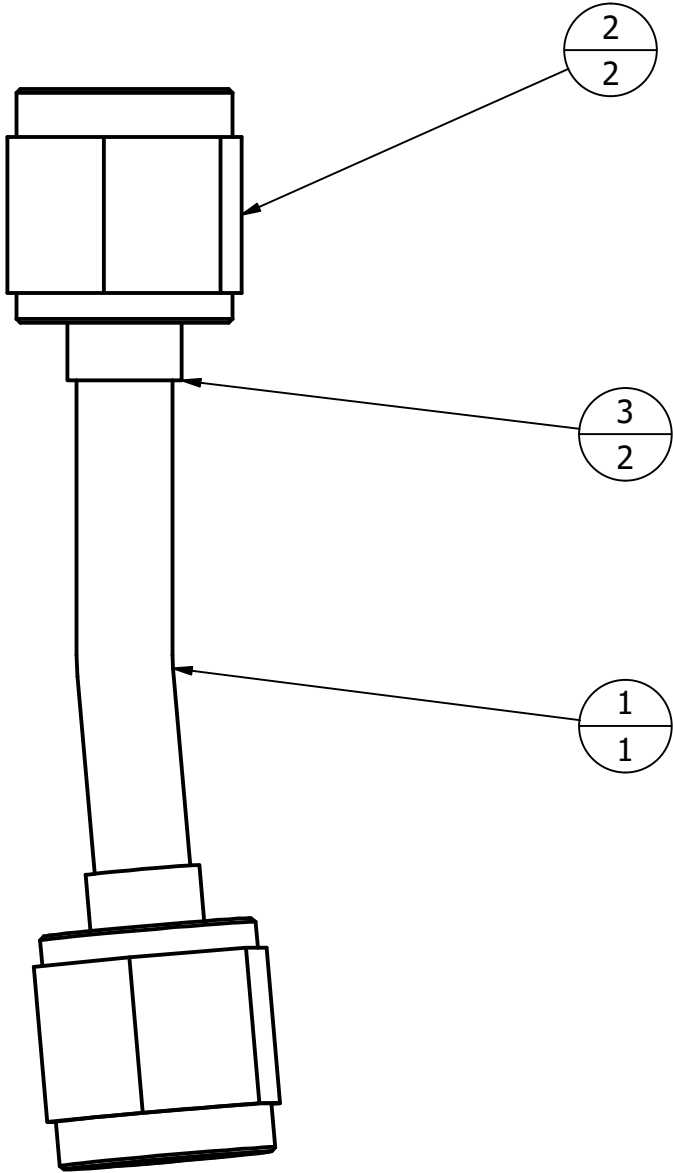
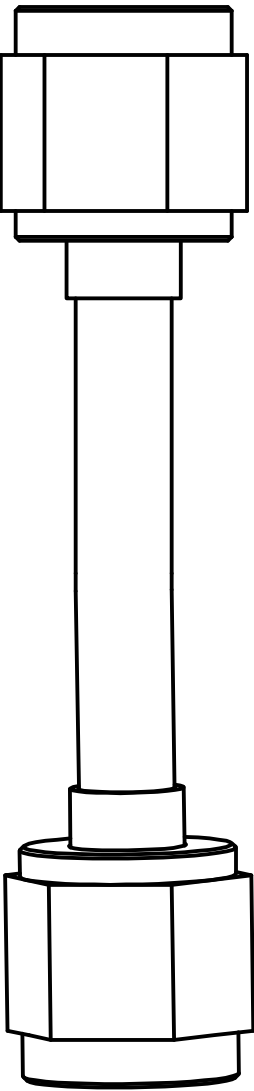
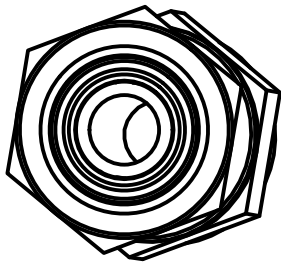
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-5 EMERGENCY PUMP TUBE ASSEM

NOTE:

1. FLARE BOTH ENDS OF TUBE PER AS4330 AT ASSEMBLY.

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	RT-4000-11	TUBE
2	2	AN818-4J	NUT
3	2	AN819-4J	SLEEVE



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	PLUMBING			RT-4000		
	DRAWN BY	CHK'D BY	APRVD. BY	DATE	REV	ECO
	KEW	LS		9/14/16	E	
		DO NOT SCALE DRAWING			SHEET	
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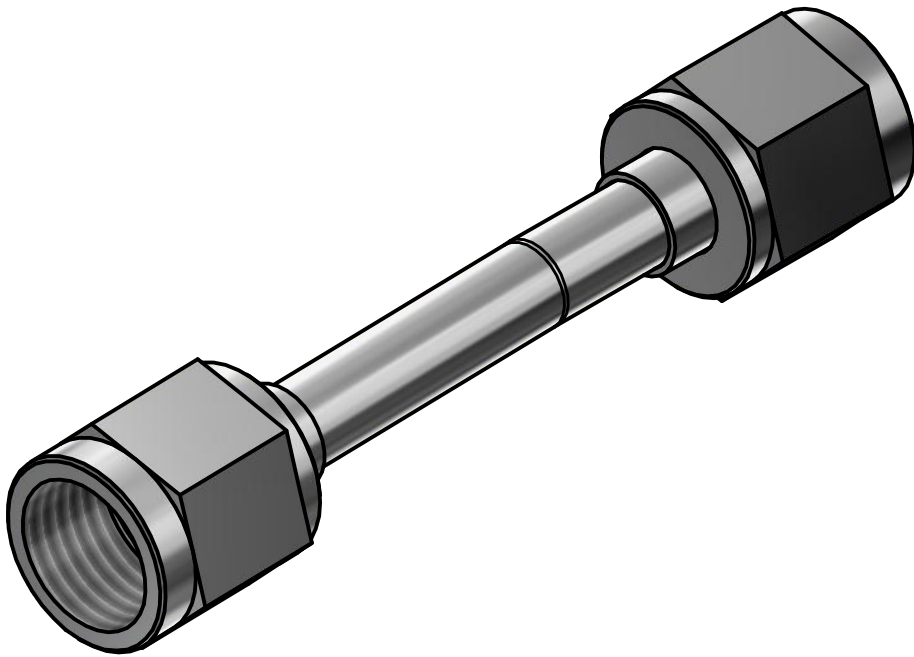
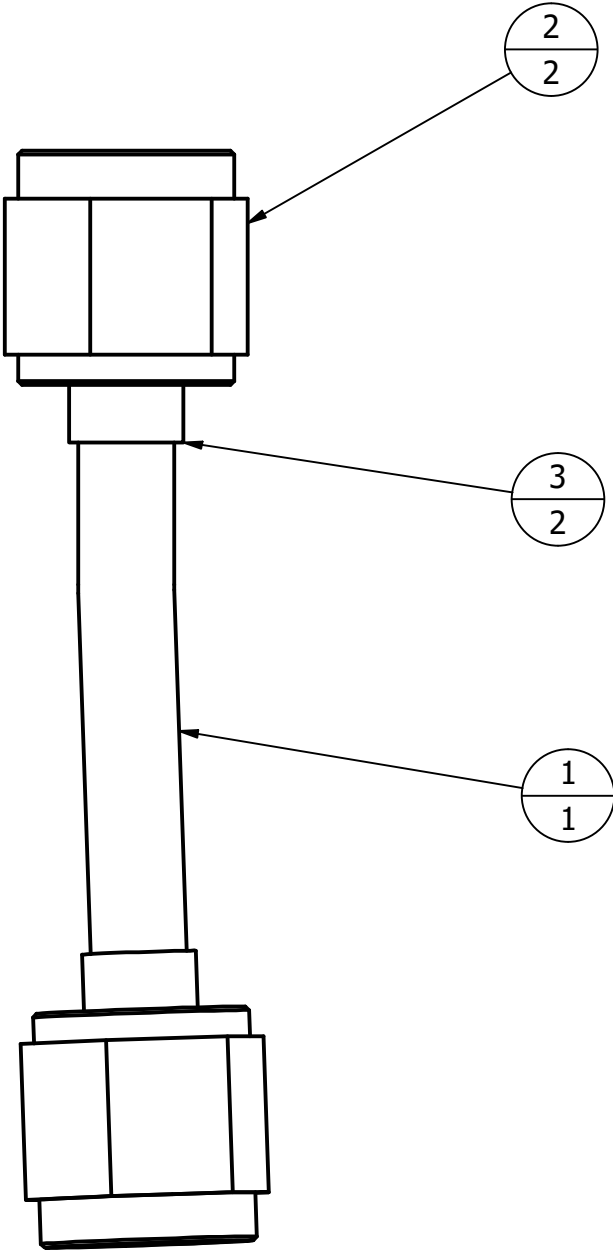
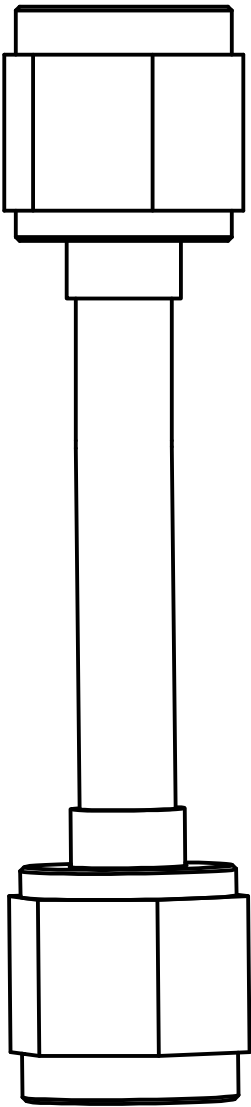
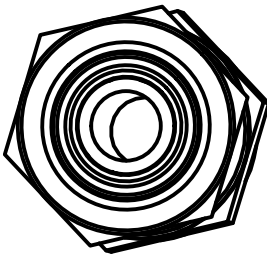
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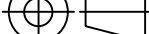
-6 PRIMARY PUMP TUBE ASSEM

NOTE:

1. FLARE BOTH ENDS OF TUBE PER AS4330 AT ASSEMBLY.

PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	RT-4000-12	TUBE
2	2	AN818-4J	NUT
3	2	AN819-4J	SLEEVE



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	PLUMBING			RT-4000		
	DRAWN BY	CHK'D BY	APPR'D. BY	DATE	REV	ECO
	KEW	LS		9/14/16	E	
		DO NOT SCALE DRAWING			SHEET	
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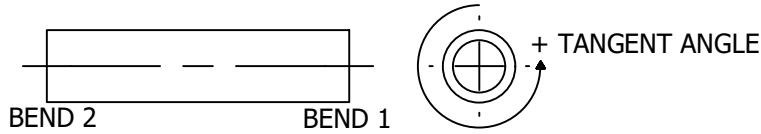


-11 TUBE

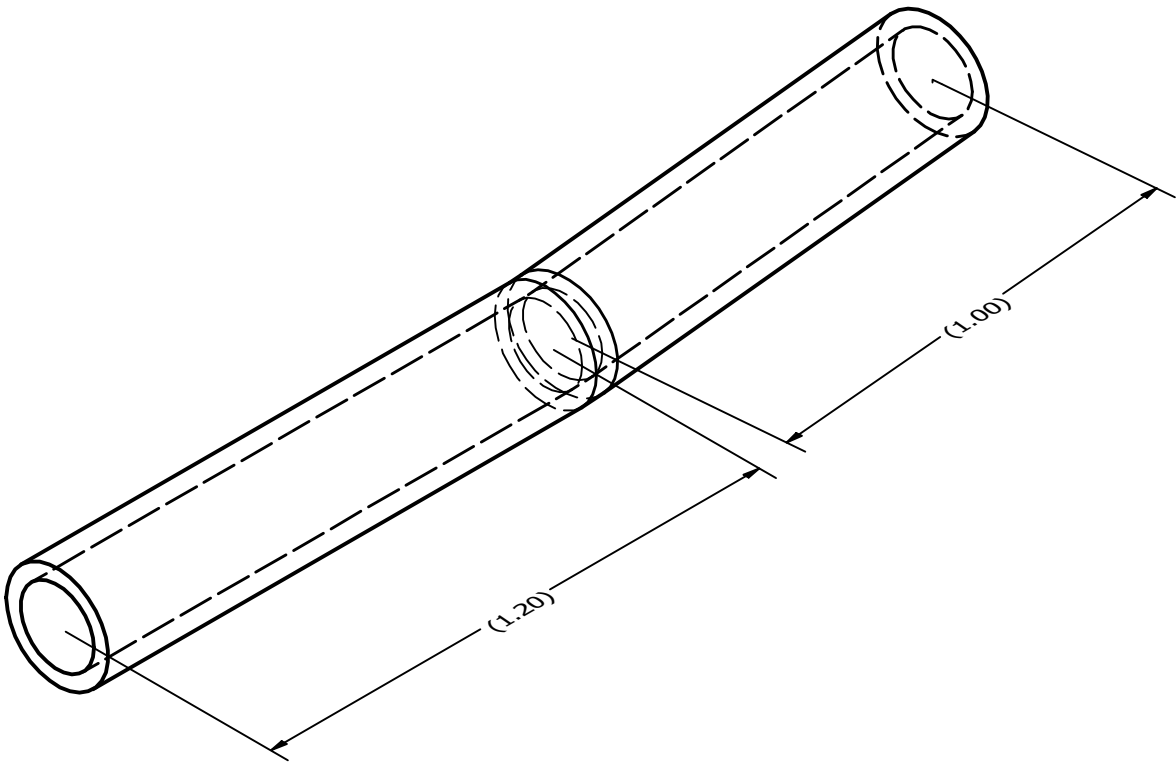
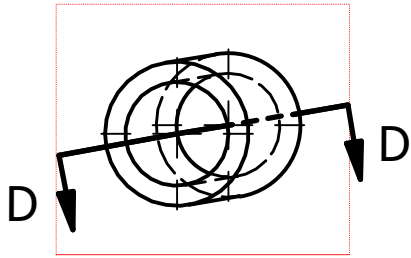
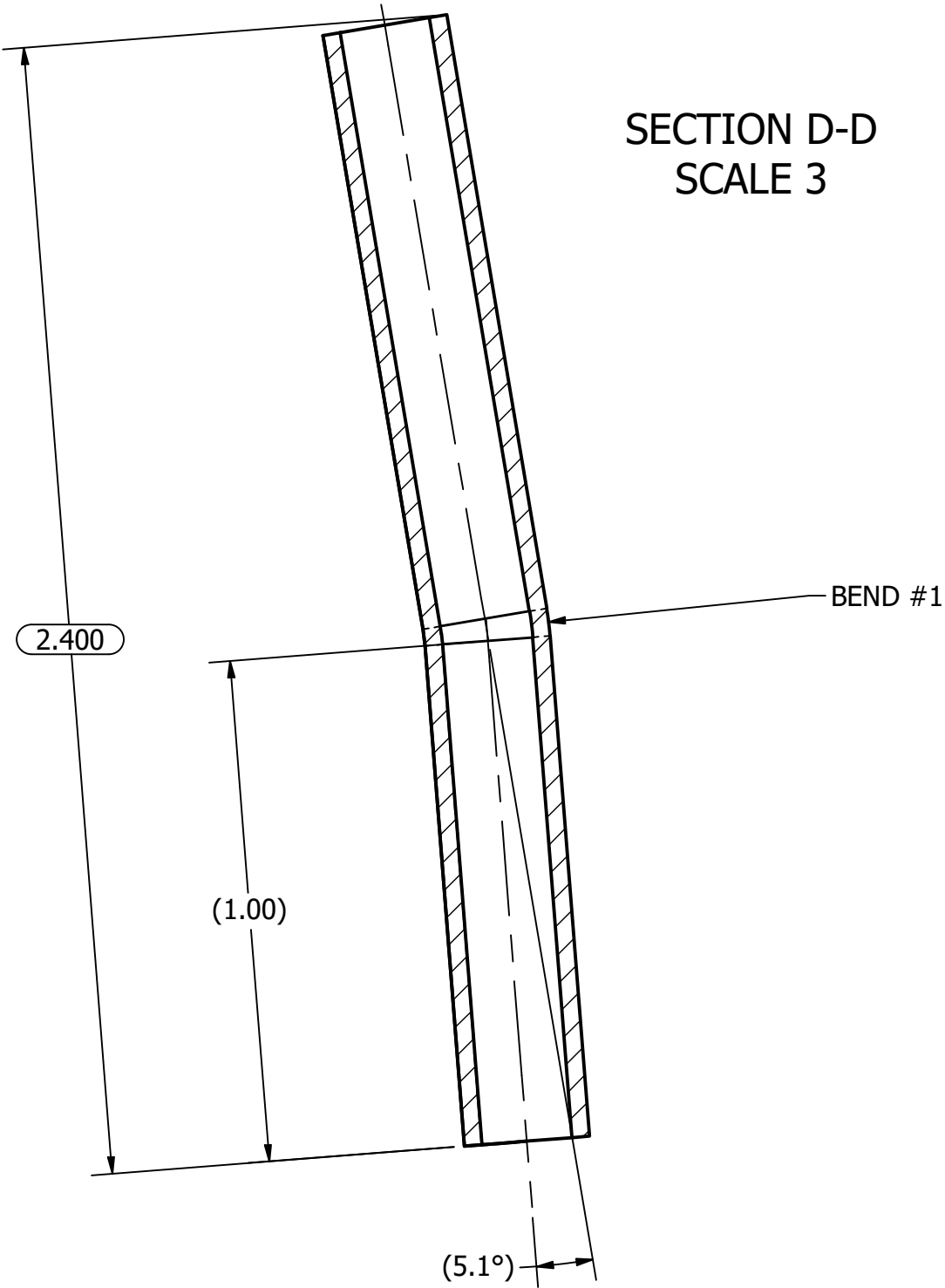
MATERIAL: 0.250IN OD X 0.035IN WALL TP304/TP304L SEAMLESS STAINLESS STEEL  
TUBING, COLD FINISHED BRIGHT ANNEALED PER ASTM A269-04.

NOTE:

- 1. TOTAL TUBE LENGTH WITHOUT FLARES = 2.4 IN
- 2. BEND RADIUS = 0.5 IN



BEND NO.	BEND TO BEND LENGTH (IN)	RELATIVE TANGENT ANGLE (DEG)	BEND ANGLE (DEG)
1	1.00	0	5.1



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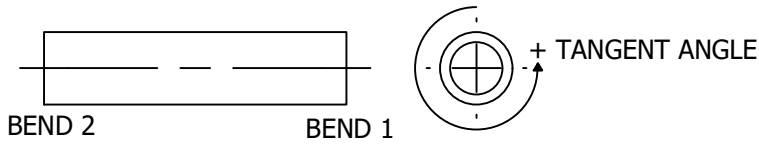
Paravion <sup>®</sup> Technology Inc.		TITLE PLUMBING		DRAWING NUMBER RT-4000	
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		DO NOT SCALE DRAWING			REV E
THREADS: INTERNAL: CLASS 2B EXTERNAL: CLASS 2A		3RD ANGLE PROJECTION		SHEET 6 OF 7	
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-12 TUBE

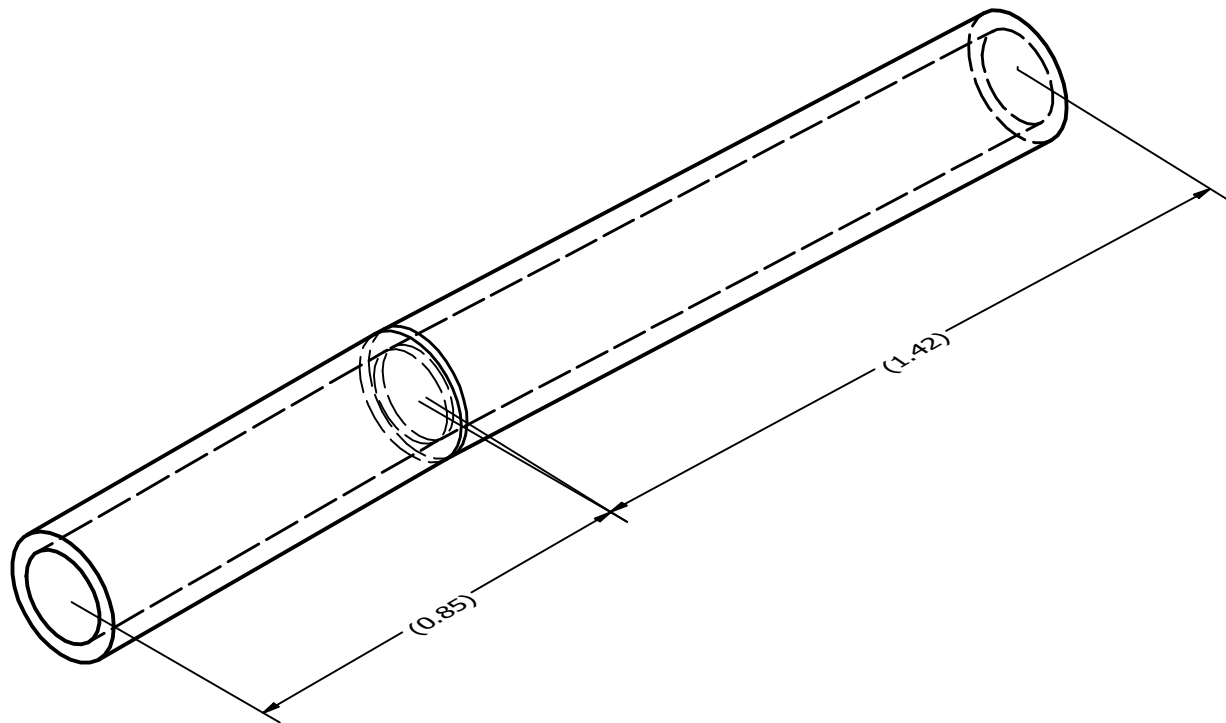
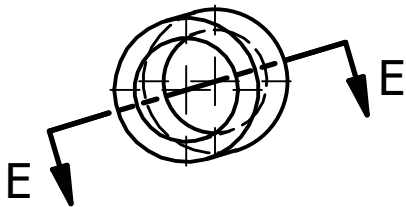
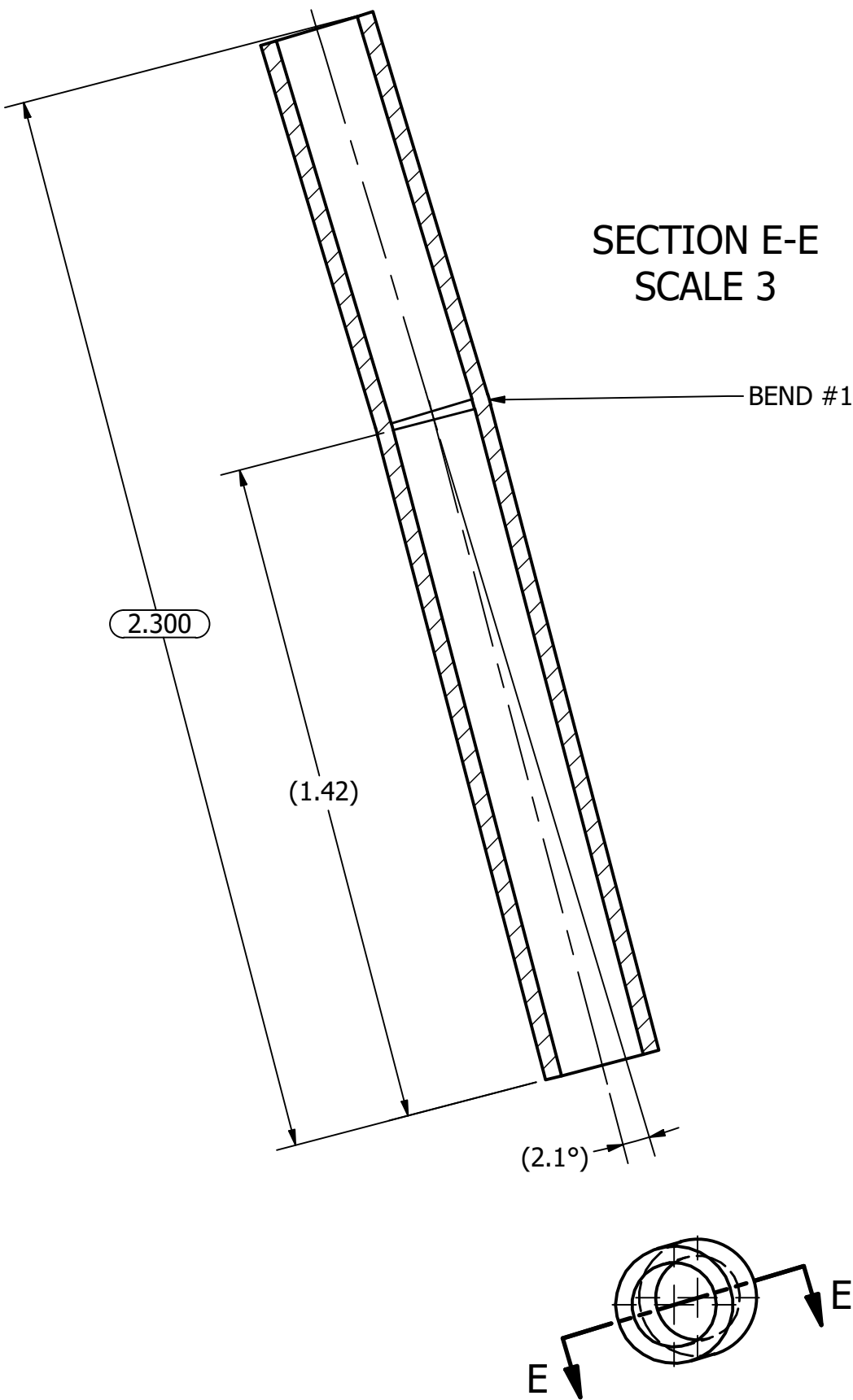
MATERIAL: 0.250IN OD X 0.035IN WALL TP304/TP304L SEAMLESS STAINLESS STEEL TUBING, COLD FINISHED BRIGHT ANNEALED PER ASTM A269-04.

NOTE:

- 1. TOTAL TUBE LENGTH WITHOUT FLARES = 2.3 IN
- 2. BEND RADIUS = 0.5 IN




BEND NO.	BEND TO BEND LENGTH (IN)	RELATIVE TANGENT ANGLE (DEG)	BEND ANGLE (DEG)
1	1.42	0	2.1



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	PLUMBING			RT-4000			
	DRAWN BY	CHK'D BY	APRVD. BY	DATE	REV	ECO	
	KEW	LS		9/14/16	E		
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